****DRAFT****

Fire Regime Condition Class (FRCC) Interagency Handbook Reference Conditions

Modeler: KellyAnn Gorman **Date:** 20 October 2004 **PNVG Code:** NHDW1

Potential Natural Vegetation Group: Northern Hardwood Forest

Geographic Area: Northern tier of states in the east, including New England, NY, and the northern parts of PA, MI, and WI; also a southern extension in the Appalachian Mountains, including NC, TN, VA, and WV, and south to northern GA.

Description: Tall, broadleaf deciduous forest with few evergreen trees occurring on high-elevation, concave landforms and north-facing slopes in high mountain areas. Dominated by sugar maple (*Acer saccharum*), beech (*Fagus grandifolia*), yellow birch (*Betula allegheniensis*), northern red oak (*Quercus rubra*), and black cherry (*Prunus serotina*). Other common associates include buckeye (*Aesculus flava*), striped maple (*A. pensylvanicum*), red maple (*A. rubrum*), mountain maple (*A. spicatum*), white ash (*Fraxinus americana*), hop hornbeam (*Ostrya virginiana*), mountain-ash (*Sorbus americana*), basswood (*Tilia americana*), serviceberry (*Amelanchier arborea*), dogwood (*Cornus alternifolia*), and American elm (*Ulmus americana*).

Fire Regime Description: Fire Regime Group V. Fire disturbances are severe and affect large patch sizes but are very rare, at 300 to 1,000-year intervals; wind events are much more frequent. Other disturbances, including windthrow, insect attack, and ice storms, usually on a single-tree-gap scale, are more important than fire although they may have pre-disposed the forest to fire during drought conditions.

Vegetation Type and Structure

Class*	Percent of Landscape	Description
A: post replacement	10	Young stand characterized by yellow birch, red maple, ash, and mountain-ash; less than 25 yrs old
B: mid-seral closed	30	Intermediate stand characterized by northern red oak, black cherry, red maple, and white ash; 25 - 100 yrs old
E: late- seral closed	60	Mature stand dominated by sugar maple, beech, and yellow birch; over 100 yrs old
Total	100	

*Formal codes for classes A-E are: AESP, BMSC, CMSO, DLSO, and ELSC, respectively.

Fire Frequency and Severity

Fire Severity	Fire Frequency (yrs)	Probability	Percent, All Fires	Description
Replacement Fire	650	.0015	94	
Non-Replacement Fire	10,000	.0001	6	
All Fire Frequency*	650	.0016	100	

*All Fire Probability = sum of replacement fire and non-replacement fire probabilities. All Fire Frequency = inverse of all fire probability (previous calculation).

References

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Southern Appalachian Man and the Biosphere. 1996. The Southern Appalachian Assessment Terrestrial Technical Report. Report 5 of 5. Atlanta, GA: U.S. Department of Agriculture, Forest Service, Southern Region.

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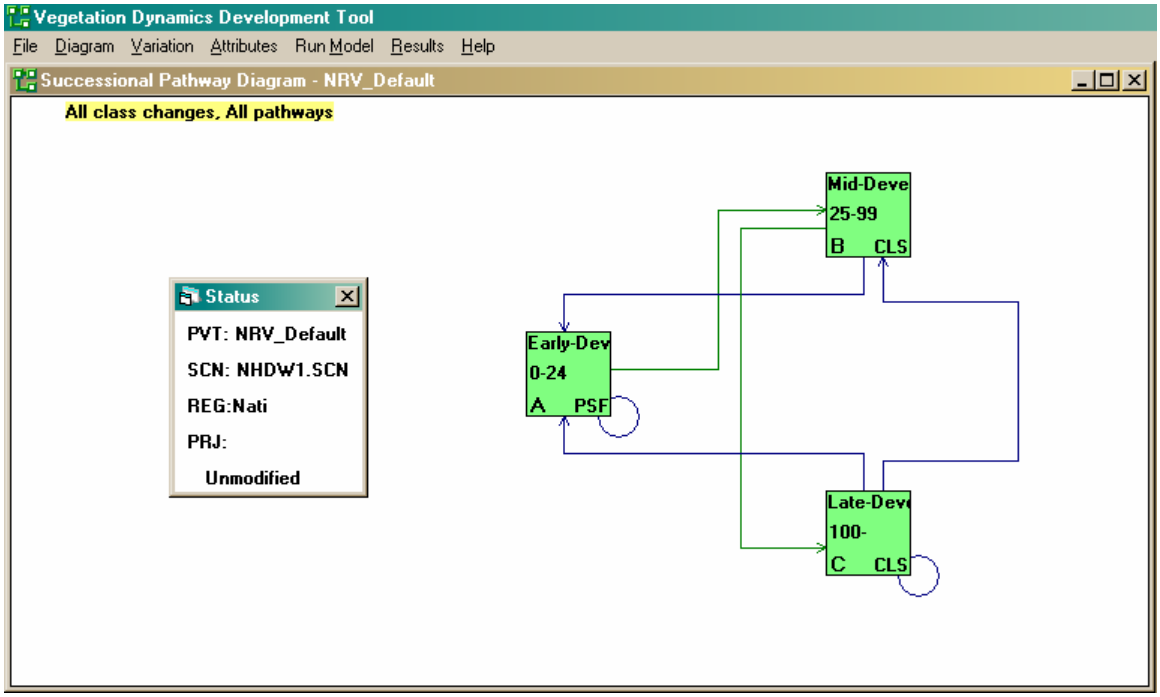
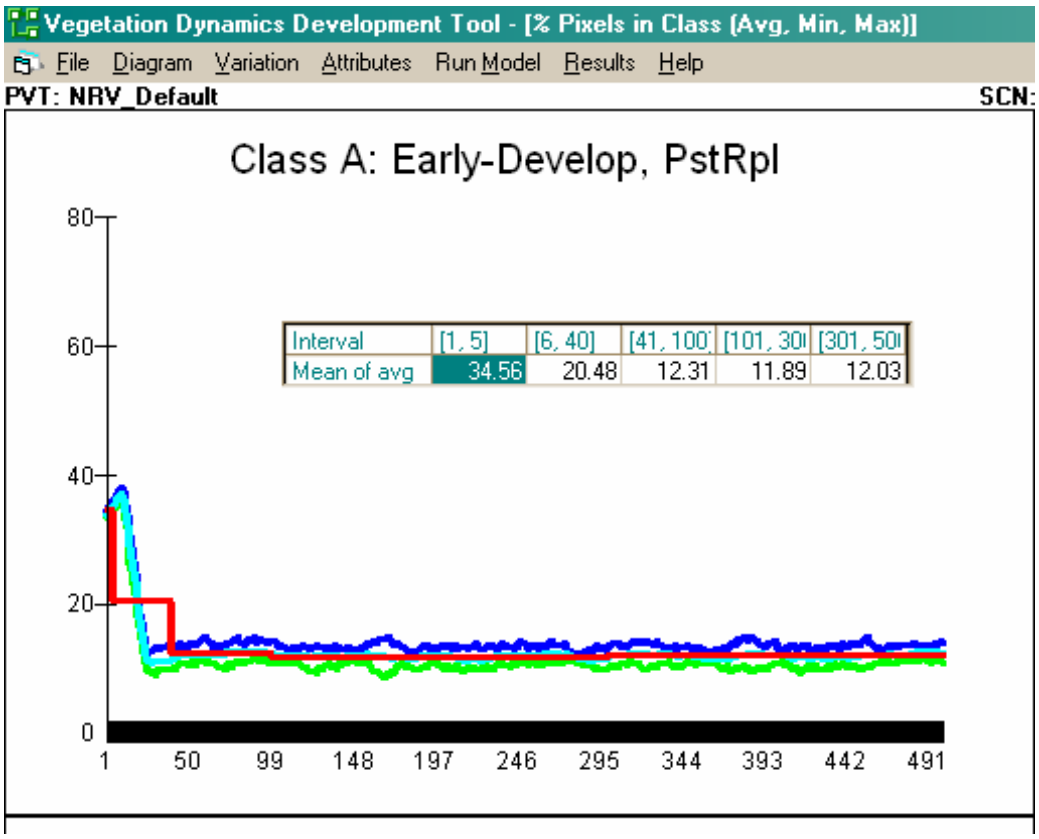
U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (2002, December). Fire Effects Information System, [Online 12 February 2004]. Available: http://www.fs.fed.us/database/feis/.

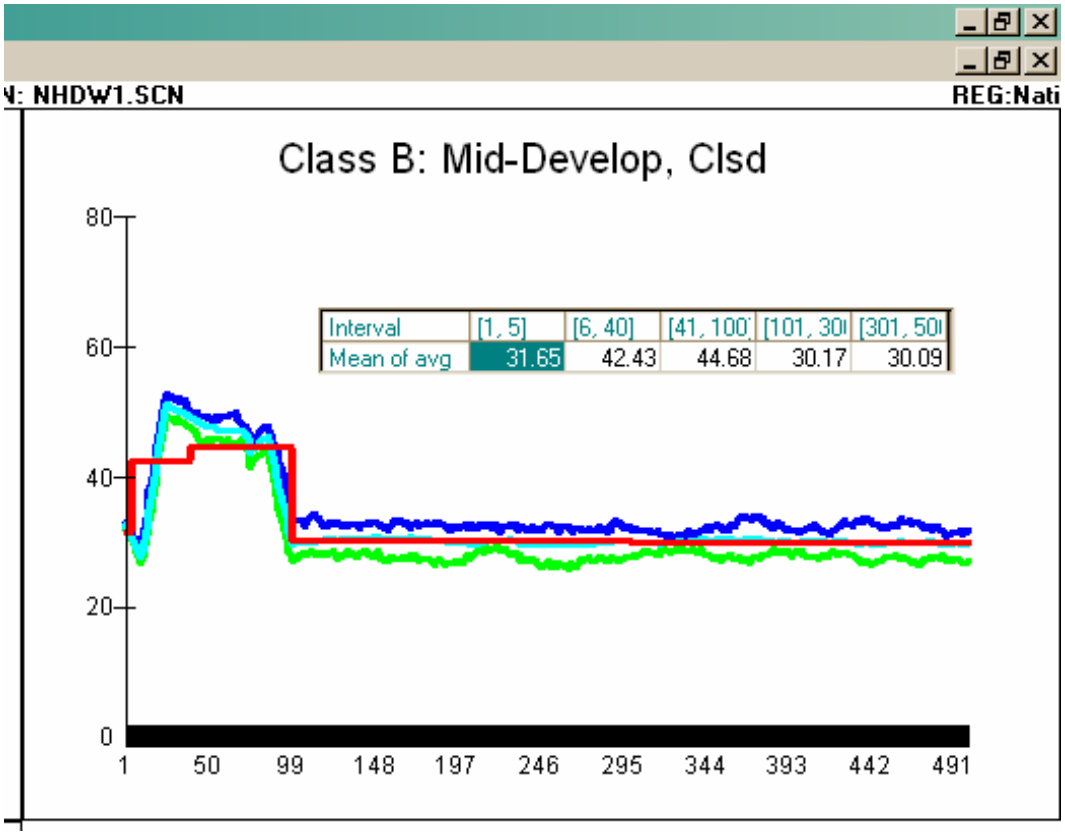
PERSONAL COMMUNICATION (if applicable):

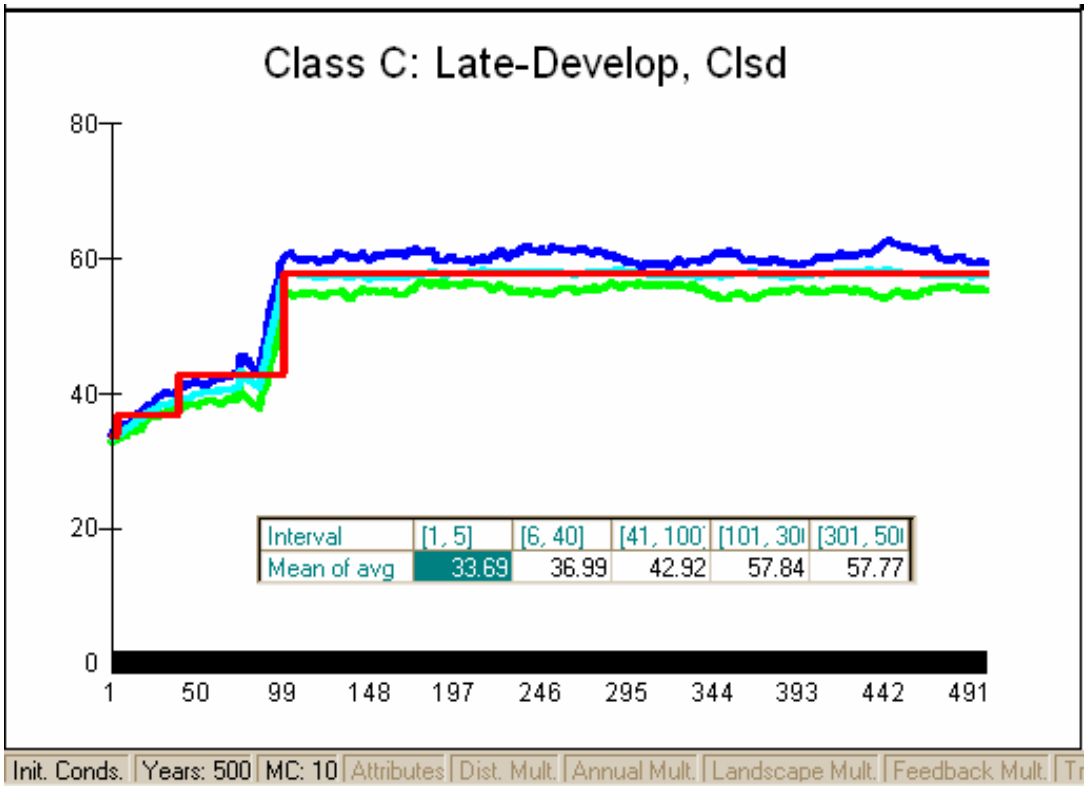
VDDT File Documentation

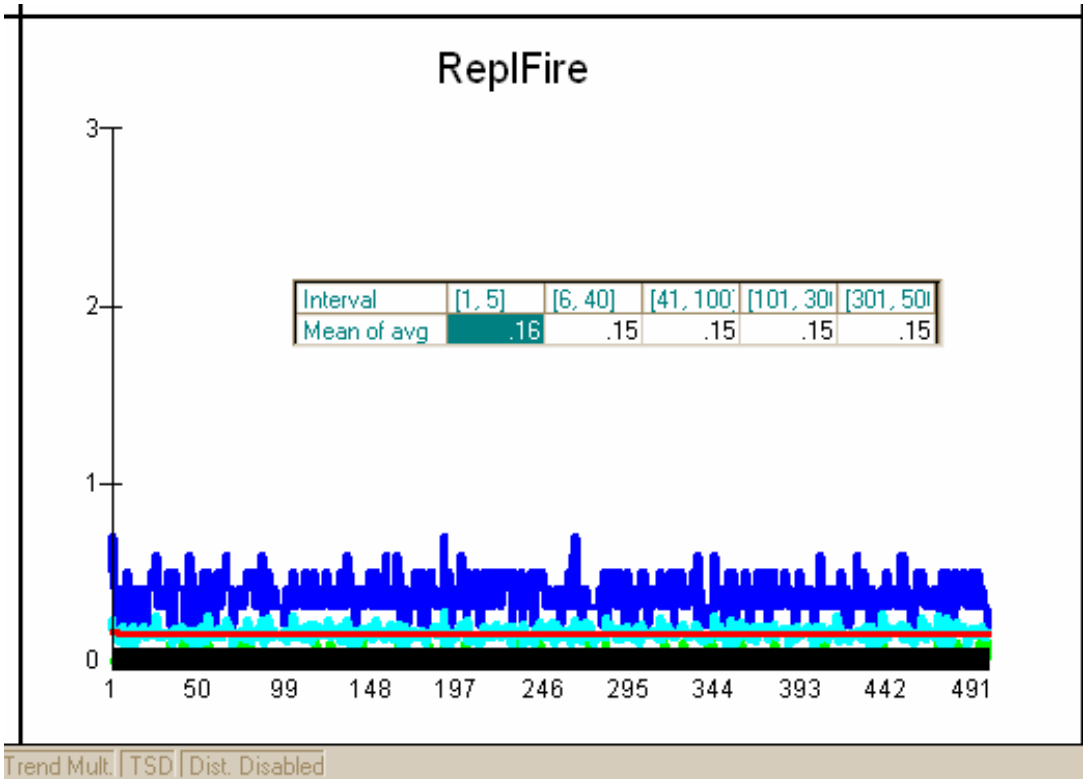
Assumptions: Patch-size scale is single-tree canopy gaps.
Native American fire was considered but was not determined to be a significant factor.

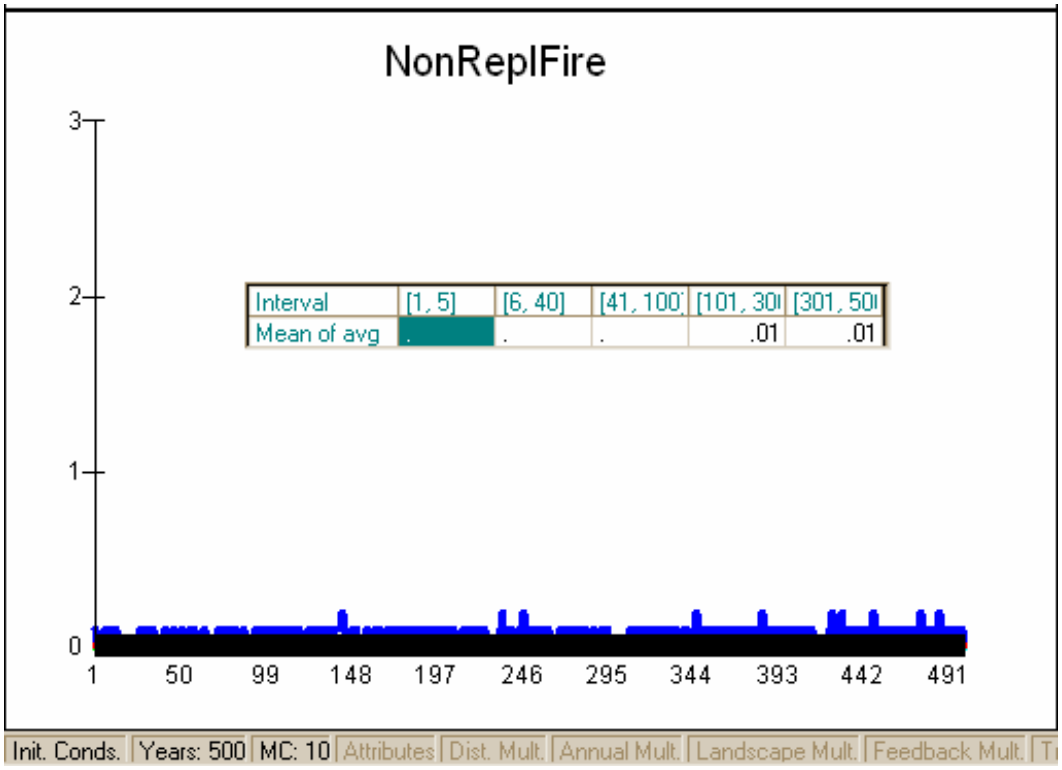


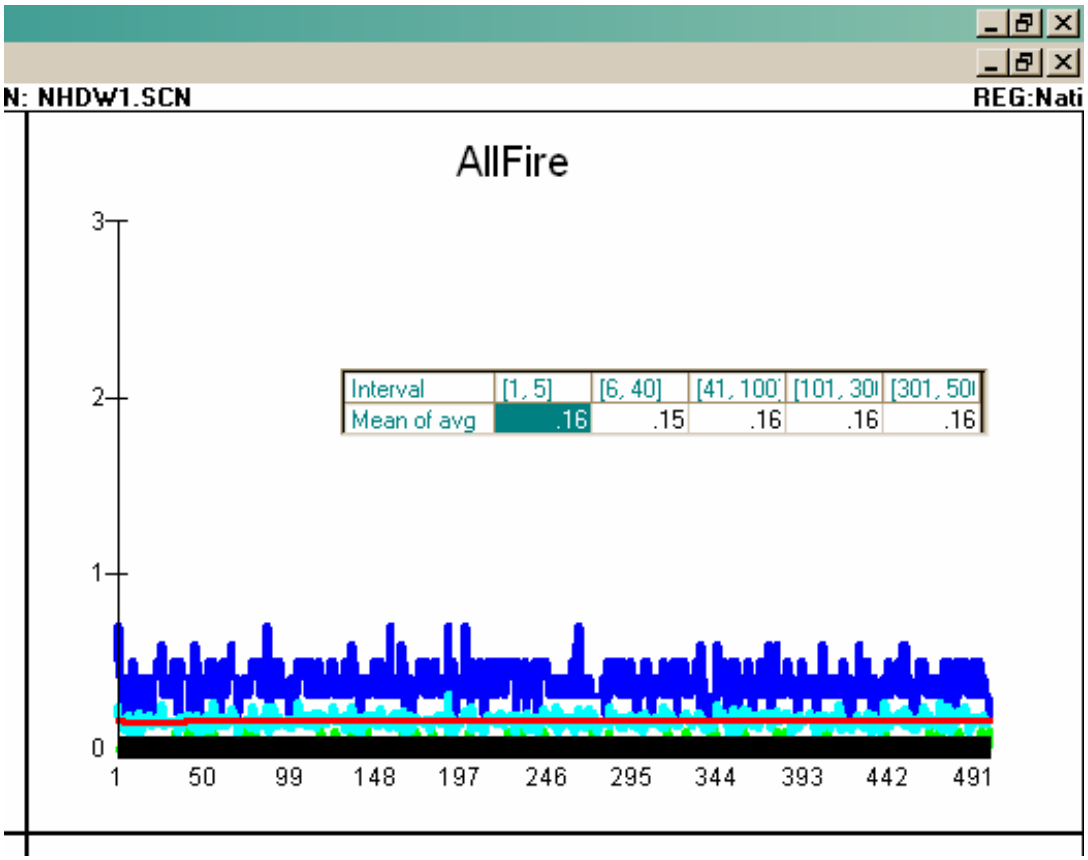

Vegetation Dynamics Development Tool - [% Pixels in Class (Avg, Min, Max)]
File Diagram Variation Attributes Run Model Results Help
PVT: NRV_Default
SCN:
Class A: Early-Develop, PstRpl
Interval [1, 5] [6, 40] [41, 100 [101, 30 [301, 50
Mean of avg 34.56 20.48 12.31 11.89 12.03
80
60
40
20
0
1 50 99 148 197 246 295 344 393 442 491


N: NHDW1.SCN
REG:Nati
Class B: Mid-Develop, Clsd
Interval [1, 5] [6, 40] [41, 100 [101, 30 [301, 50
Mean of avg 31.65 42.43 44.68 30.17 30.09
80
60
40
20
0
1 50 99 148 197 246 295 344 393 442 491


Class C: Late-Develop, Clsd
80
60
40
20
0
1
50
99
148
197
246
295
344
393
442
491
Interval | [1, 5] | [6, 40] | [41, 100 | [101, 30 | [301, 50
Mean of avg | 33.69 | 36.99 | 42.92 | 57.84 | 57.77
Init. Conds.
Years: 500
MC: 10
Attributes
Dist. Mult.
Annual Mult.
Landscape Mult.
Feedback Mult.


ReplFire
3
2
1
0
1
50
99
148
197
246
295
344
393
442
491
Interval | [1, 5] | [6, 40] | [41, 100 | [101, 30 | [301, 50
Mean of avg | .16 | .15 | .15 | .15 | .15
Trend Mult.
TSD
Dist. Disabled


NonReplFire
3
2
1
0
Interval | [1, 5] | [6, 40] | [41, 100 | [101, 30 | [301, 50
Mean of avg | . | . | . | .01 | .01
1 50 99 148 197 246 295 344 393 442 491
Init. Conds. | Years: 500 | MC: 10 | Attributes | Dist. Mult. | Annual Mult. | Landscape Mult. | Feedback Mult.


N: NHDW1.SCN
REG:Nati
AllFire
3
2
1
0
Interval | [1, 5] | [6, 40] | [41, 100 | [101, 30 | [301, 50
Mean of avg | .16 | .15 | .16 | .16 | .16
1 50 99 148 197 246 295 344 393 442 491